



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,839	02/05/2004	Yasuki Fujii	FUJR 20.917	8514
26304	7590	11/09/2007	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP			NAJEE-ULLAH, TARIQ S	
575 MADISON AVENUE			ART UNIT	PAPER NUMBER
NEW YORK, NY 10022-2585			4121	
MAIL DATE		DELIVERY MODE		
11/09/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/773,839	FUJII ET AL.
	Examiner	Art Unit
	Tariq S. Najee-ullah	4121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 5 February 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-24 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 05 February 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/5/04 and 4/8/04</u> . | 6) <input type="checkbox"/> Other: _____ . |

Art Unit: 4121

DETAILED ACTION

This is the first Office action in response to Application 10/773,839 filed on February 5, 2004. Claims 1-24 have been examined and are pending.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on February 5, 2004 and April 8, 2004 were filed in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims are 1,2,5,7,8,11-14,17,19,20,23, and 24 rejected under 35 U.S.C. 102(b) as being anticipated by US Publication Number 2002/0143960 Goren et al. (hereinafter Goren).

Regarding claim 1, Goren discloses **a network management system for managing a network comprising: a network decomposition unit which decomposes said network into network components** (Page 5, paragraph [0053]; Goren discloses the virtual network generation (VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e., network, into smaller private sub-networks, i.e. network components.); **a table management unit which manages information on decomposition of the network into said network components by tabulating the information on decomposition** (pg. 2, par. [0013]; Goren discloses the VNG system includes a front-end interface for provisioning, management and control accessible by clients and at-least one back-end VNG application system having one or more VNG servers and databases. Pg. 3, par. [0022]; Goren discloses a technique for establishing private network communities (PNCs) which includes forming a connection to a system database, which holds all information related to different users and networks it manages. Examiner interprets registration process of information, the subsequent processes that connect to the system database, and associated

front-end, back-end, and other processes to inherently involve management of network information in a database in some type of tabular information format. Pg. 10, par. [0156]; Goren further discloses that the virtual network generation (VNG) server handles the network information table updates. This further supports the inherency of network information being managed using an information table in the reference.); **and a virtual-network generation unit which generates a virtual network as a new area to be managed, by combining said network components based on information managed by said table management unit** (pg. 2, par. [0011]); Goren discloses the present invention is a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. network components, including, potentially, a plurality of isolated and geographically dispersed electronic devices (or "clients") coupled together over extended and potentially disparate communication links.).

Regarding claim 2, Goren discloses **the network management system according to claim 1, wherein said network decomposition unit decomposes said network into elements, and groups the elements into said network components, which include at least one core network and branch networks** (Pg. 5, par. [0053]; Goren discloses the virtual network generation (VNG) system can partition, i.e. decompose,

any backbone network infrastructure, i.e., core or branch network, into smaller private sub-networks, i.e. network components. Examiner interprets backbone as it is generally understood by one of ordinary skill in the art (**backbone**, n.: *Telecomm.* and *Computing*. A primary or central link in a communications network; the infrastructure formed by a system of such links. In later use freq.: spec. a high-speed, high-capacity digital connection which forms the axis of a local or wide area network. **Oxford English Dictionary** from website). The backbone is typically understood to be either the primary or central link, i.e. core, of the network, or the infrastructure formed by such links, i.e. branches, in the network.), **and said virtual-network generation unit automatically generates said virtual network by combining ones of the branch networks** (Pg. 5, par. [0053]; Goren discloses the VNG system can segment large network infrastructures into smaller, secure, centrally governed and automatically managed sub-networks, i.e., automatically generated virtual networks which are combinations of smaller branch networks.).

Regarding claim 5, Goren discloses **the network management system according to claim 2, wherein said virtual-network generation unit generates subnetwork connections in one of said at least one core network which are necessary for generation of said virtual network, in such a manner that the subnetwork connections**

share no link (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, disjoined, i.e., not sharing a link.).

Regarding claim 7, Goren discloses **the network management system according to claim 2, wherein when a branch network is added to said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, i.e. added, and disjoined.) **said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by addition of the branch network** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be

Art Unit: 4121

accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path, changing subnetwork connections in one of said at least one core network after the switching** (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **and thereafter making settings for connecting paths to nodes in the added branch network** (Pg. 5, par. [0053]; Goren discloses the virtual network generation (VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e., core or branch network, into smaller private sub-networks, i.e. network components.).

Regarding claim 8, Goren discloses **the network management system according to claim 2, wherein when a branch network is removed from said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed.), **said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by removal of the branch network** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating

to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path, changing subnetwork connections in one of said at least one core network after the switching** (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **and thereafter removing subnetwork connections related to said at least one path from nodes in the removed branch network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed.).

Regarding claim 11, Goren discloses **the network management system according to claim 2, further comprising a virtual-network display unit which displays said virtual network by generating virtual lines based on connections between nodes in said ones of**

branch networks and subnetwork connections in one of said at least one core network which connect the ones of branch networks (Pg. 6, par. [0100]; Goren discloses a client-based Graphical User Interface (GUI) browser interface module, i.e. display unit, responsible for facilitating all user-level command and control interactions with the VNG web server including set-up, manage, logon/off, register, monitor, change attributes, invite new workgroup members, access to PNC functionality, thereby enabling browser-based user registration, private network communities (PNC) creation, management, monitoring, log viewing and (optionally) billing.).

Regarding claim 12, Goren discloses **the network management system according to claim 11, wherein when a trouble occurs in a link, and a failure of a subnetwork connection is detected** (Pg. 10, par. [0154]; Goren discloses upon some termination event, e.g., completion of tasks, time out, i.e. failure of a subnetwork connection, security violation, and so on, disassembly of the PNC, i.e. subnetwork connection, occurs), **said virtual-network display unit displays information on the failure with one of said virtual lines corresponding to the subnetwork connection** (Pg. 6, par. [0100]; Goren discloses a client-based Graphical User Interface (GUI) browser interface module, i.e. display unit, responsible for facilitating all user-level command and control interactions with the VNG

web server including set-up, manage, logon/off, register, monitor, change attributes, invite new workgroup members, access to PNC functionality, thereby enabling browser-based user registration, private network communities (PNC) creation, management, monitoring, log viewing and (optionally) billing.).

Regarding claim 13, Goren discloses **a virtual-network generation method for generating a virtual network in a network, comprising the steps of: (a) decomposing said network into network components** (Page 5, paragraph [0053]; Goren discloses the virtual network generation (VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e., network, into smaller private sub-networks, i.e. network components.); **(b) tabulating information on decomposition of the network into said network components** (pg. 2, par. [0013]; Goren discloses the VNG system includes a front-end interface for provisioning, management and control accessible by clients and at-least one back-end VNG application system having one or more VNG servers and databases. Pg. 3, par. [0022]; Goren discloses a technique for establishing private network communities (PNCs) which includes forming a connection to a system database, which holds all information related to different users and networks it manages. Examiner interprets registration process of information, the subsequent processes that connect to the system database,

and associated front-end, back-end, and other processes to inherently involve management of network information in a database in some type of tabular information format. Pg. 10, par. [0156]; Goren further discloses that the virtual network generation (VNG) server handles the network information table updates. This further supports the inherency of network information being managed using an information table in the reference.);

and (c) generating said virtual network as a new area to be managed, by combining said network components based on said information tabulated in step (b) (pg. 2, par. [0011]; Goren discloses the present invention is a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. network components, including, potentially, a plurality of isolated and geographically dispersed electronic devices (or "clients") coupled together over extended and potentially disparate communication links.).

Regarding claim 14, Goren discloses **the virtual-network generation method according to claim 13, wherein in step (a), said network is decomposed into elements, and the elements are grouped into said network components, which include at least one core network and branch networks** (Pg. 5, par. [0053]; Goren discloses the virtual network generation (VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e., core or branch network, into smaller

private sub-networks, i.e. network components. Examiner interprets backbone as it is generally understood by one of ordinary skill in the art (**backbone**, n.: *Telecomm. and Computing*. A primary or central link in a communications network; the infrastructure formed by a system of such links. In later use freq.: spec. a high-speed, high-capacity digital connection which forms the axis of a local or wide area network. **Oxford English Dictionary** from website). The backbone is typically understood to be either the primary or central link, i.e. core, of the network, or the infrastructure formed by such links, i.e. branches, in the network.), **and in step (c), said virtual network is automatically generated by combining ones of the branch networks** (Pg. 5, par. [0053]; Goren discloses the VNG system can segment large network infrastructures into smaller, secure, centrally governed and automatically managed sub-networks, i.e., automatically generated virtual networks which are combinations of smaller branch networks.).

Regarding claim 17, Goren discloses **the virtual-network generation method according to claim 14, wherein in step (c), subnetwork connections in one of said at least one core network which are necessary for generation of said virtual network are generated in such a manner that the subnetwork connections share no link** (Pg. 2, par. [0011]; Goren discloses a virtual network generation

(VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, disjoined, i.e., not sharing a link.).

Regarding claim 19, Goren discloses **the virtual-network generation method according to claim 14, wherein when a branch network is added to said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, i.e. added, and disjoined.), **a structure of the virtual network is changed by determining at least one path in the virtual network which is affected by addition of the branch network** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within

special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path, changing subnetwork connections in one of said at least one core network after the switching** (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **and thereafter making settings for connecting paths to nodes in the added branch network** (Pg. 5, par. [0053]; Goren discloses the virtual network generation (VNG) system can partition, i.e. decompose, any backbone network infrastructure, i.e., core or branch network, into smaller private sub-networks, i.e. network components.).

Regarding claim 20, Goren discloses **the virtual-network generation method according to claim 14, wherein when a branch**

network is removed from said virtual network (Pg. 2, par. [0011];

Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e.

removed.), a structure of the virtual network is changed by determining at least one path in the virtual network which is affected by removal of the branch network (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path, changing**

subnetwork connections in one of said at least one core network after the switching (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **and thereafter removing subnetwork connections related to said at least one path from nodes in the removed branch network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed.).

Regarding claim 23, Goren discloses **the virtual-network generation method according to claim 14, further comprising a step of displaying said virtual network by generating virtual lines based on connections between nodes in said ones of branch networks and subnetwork connections in one of said at least one core network which connect the ones of branch networks** (Pg. 6, par. [0100]; Goren

discloses a client-based Graphical User Interface (GUI) browser interface module, i.e. display unit, responsible for facilitating all user-level command and control interactions with the VNG web server including set-up, manage, logon/off, register, monitor, change attributes, invite new workgroup members, access to PNC functionality, thereby enabling browser-based user registration, private network communities (PNC) creation, management, monitoring, log viewing and (optionally) billing.).

Regarding claim 24, Goren discloses **the virtual-network generation method according to claim 23, wherein when a trouble occurs in a link, and a failure of a subnetwork connection is detected** (Pg. 10, par. [0154]; Goren discloses upon some termination event, e.g., completion of tasks, time out, i.e. failure of a subnetwork connection, security violation, and so on, disassembly of the PNC, i.e. subnetwork connection, occurs), **information on the failure is displayed with one of said virtual lines corresponding to the subnetwork connection** (Pg. 6, par. [0100]; Goren discloses a client-based Graphical User Interface (GUI) browser interface module, i.e. display unit, responsible for facilitating all user-level command and control interactions with the VNG web server including set-up, manage, logon/off, register, monitor, change attributes, invite new workgroup members, access to PNC functionality, thereby enabling browser-based user registration, private network communities

(PNC) creation, management, monitoring, log viewing and (optionally) billing.).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 3,4,6,9,10,15,16,18,21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goren as applied to claims 1-2 and 13-14 above, and further in view of US Patent Number 7,095,740 to Jagannath et al. (Jagannath hereinafter).

Regarding claim 3, Goren discloses **the network management system according to claim 2, wherein said table management unit** (Pg. 5, par. [0055]; Goren discloses a system database for holding system information, such as all user, workgroup, and network attributes, general control information, log data, and billing information. Goren further discloses that in the inventions preferred form, the data storage device also includes the central data behind all the private network communities (PNC) server's operational logic, serving as the data repository for all of the PNC server building blocks (e.g. the provisioning web server device, the data packet switch server device and the data access and security management service).) **comprises, a branch information table for managing information on structures of said branch networks** (Pg. 10, par. [0156]; Goren further discloses that the virtual network generation (VNG) server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation), **a core information table for managing information on at least one structure of said at least one core network** (Pg. 10, par. [0156]; Goren further discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation), **a connection**

information table for managing information on connections between the at least one core network and the branch networks (Pg. 10, par. [0156]; Goren further discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation), **and a virtual-network information table for managing information on a structure of said virtual network after generation of the virtual network** (Pg. 10, par. [0156]; Goren further discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation).

Jagannath discloses a method and apparatus for directing messages through a network **wherein said table management unit comprises, a branch information table for managing information on structures of said branch networks** (Abstract; Jagannath discloses a method and apparatus for directing messages through a network wherein multiple tables for directing messages through the network are maintained and provided. Each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.), **a core information table for managing information on at least one structure of said at least one**

core network (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.), **a connection information table for managing information on connections between the at least one core network and the branch networks** (Abstract; Jagannath discloses in one embodiment the messages are forwarded using plain IP forwarding using a route table associated with the VPN. In another embodiment separate forwarding tables using labels are generated for each virtual private network. The messages are forwarded by looking up the label in the table corresponding to the VPN. In a third embodiment, a single forwarding table is utilized where the table is built based on separate routing tables for each virtual private network.), **and a virtual-network information table for managing information on a structure of said virtual network after generation of the virtual network** (Abstract; Jagannath discloses the messages are forwarded by looking up the label in the table corresponding to the VPN. In a third embodiment, a single forwarding table is utilized where the table is built based on separate routing tables for each virtual private network.).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 4, Goren discloses **the network management system according to claim 3, wherein said branch information table stores branch numbers indicating said branch networks** (Pg. 5, par. [0055]); Goren discloses a system database for holding system information, such as all user, workgroup, and network attributes, general control information, log data, and billing information. Goren further discloses that in the inventions preferred form, the data storage device also includes the central data behind all the private network communities (PNC) server's operational logic, serving as the data repository for all of the PNC server building blocks (e.g. the provisioning web server device, the data packet switch server device and the data access and security management service). Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation), **and said virtual-network generation unit automatically generates said virtual network by combining said ones of the branch networks**

when ones of the branch numbers corresponding to the ones of the branch networks are externally designated (pg. 2, par. [0018]; Goren discloses, a virtual network generation system by which the PNCs become virtual nodes relating, i.e., corresponding to different dynamic communities that they created or of which they are members, i.e. designated.).

Jagannath discloses a method and apparatus for directing messages through a network **wherein said branch information table stores branch numbers indicating said branch networks** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 6, Goren discloses **the network management system according to claim 2, wherein said table management unit further comprises a protection information table which contains information on protection of channels between nodes in the at least one core network** (Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation.), **and said virtual-network generation unit generates subnetwork connections by preferentially selecting ones of the channels which are not protected, based on the protection information table** (Pg. 2, par. [0011]; Goren discloses a virtual network generation system and method that is setup and controlled automatically, dynamically and remotely routes through public networks in a manner that enables substantially similar security and functionality available in traditional private networks, such as a LAN. The virtual network generation (VNG) system and method is for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, disjoined in various configurations. Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates. Although Goren discloses a

network information table, he does not expressly disclose the specific type of table described in the limitation.).

Jagannath discloses a method and apparatus for directing messages through a network **wherein said table management unit further comprises a protection information table which contains information on protection of channels between nodes in the at least one core network** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.), **and said virtual-network generation unit generates subnetwork connections by preferentially selecting ones of the channels which are not protected, based on the protection information table** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 9, Goren discloses **the network management system according to claim 3, wherein when a node is added to a branch network in said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, i.e. added, and disjoined.), **said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by addition of the node** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC

workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path** (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **thereafter making settings for connecting paths to the added node** (Abstract; Goren discloses electronic devices connected to the dynamic private network become virtual nodes relating to different PNCs.), **and adding information on the added node to said branch information table** (Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates. Although

Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation.).

Jagannath discloses a method and apparatus for directing messages through a network **9. The network management system according to claim 3, wherein when a node is added to a branch network in said virtual network, said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by addition of the node, switching said at least one path to at least one other path, thereafter making settings for connecting paths to the added node, and adding information on the added node to said branch information table**

(Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 10, Goren discloses **the network management system according to claim 3, wherein when a node is removed from a branch network in said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed.), **said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by removal of the node** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to

transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path** (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **and thereafter removing information on the removed node from said branch information table** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed. Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation.).

Jagannath discloses a method and apparatus for directing messages through a network **10. The network management system according to claim 3, wherein when a node is removed from a branch network in said virtual network, said virtual-network generation unit changes a structure of the virtual network by determining at least one path in the virtual network which is affected by removal of the node, switching said at least one path to at least one other path, and thereafter removing information on the removed node from said branch information table** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 15, Goren discloses **the virtual-network generation method according to claim 14, wherein said information on decomposition is managed by using** (Pg. 5, par. [0055]; Goren discloses a system database for holding system information, such as all user, workgroup, and network attributes, general control information, log data, and billing information. Goren further discloses that in the inventions preferred form, the data storage device also includes the central data behind all the private network communities (PNC) server's operational logic, serving as the data repository for all of the PNC server building blocks (e.g. the provisioning web server device, the data packet switch server device and the data access and security management service).), **a branch information table for managing information on structures of said branch networks** (Pg. 10, par. [0156]; Goren further discloses that the virtual network generation (VNG) server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation), **a core information table for managing information on at least one structure of said at least one core network** (Pg. 10, par. [0156]; Goren further discloses that the virtual network generation (VNG) server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table

described in the limitation), **a connection information table for managing information on connections between the at least one core network and the branch networks**(Pg. 10, par. [0156]; Goren further discloses that the virtual network generation (VNG) server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation), **and a virtual-network information table for managing information on a structure of said virtual network after generation of the virtual network**(Pg. 10, par. [0156]; Goren further discloses that the virtual network generation (VNG) server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation).

Jagannath discloses a method and apparatus for directing messages through a network **wherein said information on decomposition is managed by using, a branch information table for managing information on structures of said branch networks** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.), **a core information table for managing information on at least one structure of said at**

least one core network (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.), **a connection information table for managing information on connections between the at least one core network and the branch networks** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.), **and a virtual-network information table for managing information on a structure of said virtual network after generation of the virtual network** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN.).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 16, Goren discloses **the virtual-network generation method according to claim 15, wherein said branch information table stores branch numbers indicating said branch networks** (Pg. 5, par. [0055]; Goren discloses a system database for holding system information, such as all user, workgroup, and network attributes, general control information, log data, and billing information. Goren further discloses that in the inventions preferred form, the data storage device also includes the central data behind all the private network communities (PNC) server's operational logic, serving as the data repository for all of the PNC server building blocks (e.g. the provisioning web server device, the data packet switch server device and the data access and security management service). Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation), **and in step (c) said virtual network is automatically generated by combining said ones of the branch networks when ones of the branch numbers corresponding to the ones of the branch networks are externally designated** (pg. 2, par. [0018]; Goren discloses, a virtual network generation system by which the

PNCs become virtual nodes relating, i.e., corresponding to different dynamic communities that they created or of which they are members, i.e. designated.).

Jagannath discloses a method and apparatus for directing messages through a network wherein said branch information table stores branch numbers indicating said branch networks, and in step (c) said virtual network is automatically generated by combining said ones of the branch networks when ones of the branch numbers corresponding to the ones of the branch networks are externally designated (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 18, Goren discloses **the virtual-network generation method according to claim 14, wherein in step (c), subnetwork connections are generated by preferentially selecting ones of the channels which are not protected, based on a protection information table which contains information on protection of channels between nodes in the at least one core network, and said virtual-network generation unit** (Pg. 2, par. [0011]; Goren discloses a virtual network generation system and method that is setup and controlled automatically, dynamically and remotely routes through public networks in a manner that enables substantially similar security and functionality available in traditional private networks, such as a LAN. The virtual network generation (VNG) system and method is for establishing and managing private network communities (PNCs), i.e. subnetwork connections. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, disjoined in various configurations. Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation.).

Jagannath discloses a method and apparatus for directing messages through a network **18. The virtual-network generation method**

according to claim 14, wherein in step (c), subnetwork connections are generated by preferentially selecting ones of the channels which are not protected, based on a protection information table which contains information on protection of channels between nodes in the at least one core network, and said virtual-network generation unit (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 21, Goren discloses **the virtual-network generation method according to claim 15, wherein when a node is**

added to a branch network in said virtual network (Pg. 2, par. [0011];
Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, i.e. added, and disjoined.), **a structure of the virtual network is changed by determining at least one path in the virtual network which is affected by addition of the node (Pg. 3, par. [0018];**
Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path (Pg. 2, par. [0017];** The core functionality hosted by the VNG server(s) may include

Art Unit: 4121

several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **thereafter making settings for connecting paths to the added node** (Abstract; Goren discloses electronic devices connected to the dynamic private network become virtual nodes relating to different PNCs.), **and adding information on the added node to said branch information table** (Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation.).

Jagannath discloses a method and apparatus for directing messages through a network wherein **the virtual-network generation method according to claim 15, wherein when a node is added to a branch network in said virtual network, a structure of the virtual network is changed by determining at least one path in the virtual network which is affected by addition of the node, switching said at least one path to at least one other path, thereafter making settings for**

connecting paths to the added node, and adding information on the added node to said branch information table (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Regarding claim 22, Goren discloses **the virtual-network generation method according to claim 15, wherein when a node is removed from a branch network in said virtual network** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively assembled,

disassembled, reassembled, joined, and disjoined, i.e. removed.), **a structure of the virtual network is changed by determining at least one path in the virtual network which is affected by removal of the node** (Pg. 3, par. [0018]; Goren discloses In accordance with the present invention, a method of establishing one or more private network communities (PNC) among isolated and geographically dispersed electronic devices over existing communication infrastructure is provided. Subsequently, creation of a PNC is based on a list of addresses representing all clients in the workgroup; the PNC workgroup membership may be a function of a set of tasks to be accomplished. In the preferred embodiment, the PNCs include sets of server-managed tunnels encapsulating data within special communication protocol packets to transport information that does not otherwise conform to any public network addressing standards. The end result is that all users, i.e., clients connected to the network, become virtual nodes relating to different dynamic communities that they created or of which they are members as branches.), **switching said at least one path to at least one other path** (Pg. 2, par. [0017]; The core functionality hosted by the VNG server(s) may include several modules necessary for establishing and managing each PNC, authenticating users, managing security keys, switching/routing PNC traffic, terminating PNCs, logging usage, and (optionally) billing users. As will be appreciated by those skilled

in the art, the foregoing functionality may be distributed among a variety of types of resources and the managers identified herein are merely used for illustrative purposes.), **and thereafter removing information on the removed node from said branch information table** (Pg. 2, par. [0011]; Goren discloses a virtual network generation (VNG) system and method for establishing and managing private network communities (PNCs), i.e. node. Goren further discloses, PNCs may be selectively assembled, disassembled, reassembled, joined, and disjoined, i.e. removed. Pg. 10, par. [0156]; Goren discloses that the VNG server handles the network information table updates. Although Goren discloses a network information table, he does not expressly disclose the specific type of table described in the limitation.). Jagannath discloses a method and apparatus for directing messages through a network wherein **the virtual-network generation method according to claim 15, wherein when a node is removed from a branch network in said virtual network, a structure of the virtual network is changed by determining at least one path in the virtual network which is affected by removal of the node, switching said at least one path to at least one other path, and thereafter removing information on the removed node from said branch information table** (Abstract; Jagannath discloses each table corresponds to a virtual private network and contains routing information specific to that virtual private network. A separate

routing table is maintained for each VPN. For other limitations, please refer to the previously noted citations to Goren above).

Goren and Jagannath are analogous art because they are from the same field of endeavor of network management relating to virtual networks.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use Jagannath's virtual network routing table management system in Goren's virtual network generation system.

The suggestion/motivation would have been to provide more fine-grained control over the routed topology for individual virtual private networks (column 1, lines 51-52).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent Number 5,799,153 to Blau et al discloses a Telecommunication System containing several nodes that enables management of the various resources.
- US Patent Number 6,233,221 to Lowe et al discloses a System and Method for a Ring Network with Virtual Path Connections.
- US Publication Number 2004/0019673 to Miyazaki et al discloses a Network Management System.

Art Unit: 4121

- US Patent Number 7,061,923 to Dugan et al discloses a Method and Apparatus for Managing Local Resources at Service Nodes in an Intelligent Network.
- US Patent Number 6,366,913 to Fitler, Jr. et al discloses a Centralized Directory Services Supporting Dynamic Group Membership.
- US Patent Number 6,487,600 to Lynch discloses a System and Method for Supporting Multimedia Communications Upon a Dynamically Configured Member Network.
- US Patent Number 6,105,066 to Hayes, Jr. discloses a Client-Server System with Central Application Management using Fully Qualified Class Names of Object-Oriented applications.
- US Patent Number 6,041,166 to Hart et al discloses a Virtual Network Architecture for Connectionless LAN Backbone.
- US Patent Number 5,504,921 to Dev et al discloses a Network Management System Using Model-Based Intelligence.
- US Patent Number 7,197,550 to Cheline et al discloses Automated Configuration of a Virtual Private Network.
- US Patent Number 5,777,549 to Arrowsmith et al discloses a Distributed Network Management Environment which includes a Virtual Network Machine.

- US Patent Number 6,233,074 to Lahat et al discloses a Local Area Network which generates Virtual Connections using Wave Division Multiplexing.
- US Patent Number 6,594,704 to Birenback et al discloses a method of maintaining multiple routing tables within a global table of a network router.
- US Patent Number 6,532,088 to Dantu et al discloses an apparatus and a method for transporting IP user traffic over a fiber optic ring network that includes a plurality of fiber optic ring network nodes.
- US Publication Number 2007/0127683 to Zabawskyj et al discloses A method of distributing and executing service logic across private and public networks for the generation and provision of telecommunication services.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tariq S. Najee-ullah whose telephone number is (571) 270-5013. The examiner can normally be reached on Monday through Thursday 7:30 - 6:00 EST.

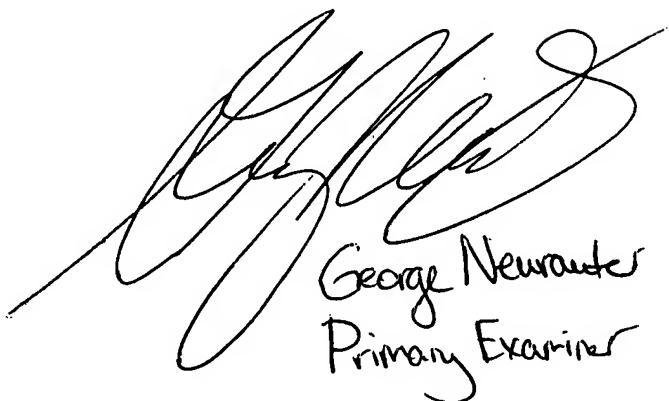
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Taghi T. Arani can be reached on (571) 272-3787.

Art Unit: 4121

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN



George Newmeyer
Primary Examiner

A handwritten signature in black ink, appearing to read "George Newmeyer". Below the signature, the name "George Newmeyer" is printed in a cursive script, followed by "Primary Examiner" in a slightly smaller font.